

U.S. Patent Application No. 09/857,490  
Amendment After Final dated June 2, 2004  
Reply to Office Action dated March 2, 2004

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

Claim 1 (currently amended): A furnace carbon black producing process comprising dewatering and heating wherein off-gas from a carbon black furnace is dewatered and heated, following substantial removal of and substantially removing carbon black therefrom, and then feeding dewatered and heated off-gas as fed as a combustion gas feed stream to a burner portion of the same or a different carbon black furnace, wherein said combustion gas feed stream does not completely combust, thereby wherein said a carbon black is produced by a fuel rich process.

Claim 2 (original): The furnace carbon black producing process in accordance with claim 1, wherein the heated, dewatered off-gas is employed in a deep fuel rich combustion strategy without other combustible gas feed streams to the burner.

Claim 3 (original): The furnace carbon black producing process in accordance with claim 1 wherein the heated, dewatered off-gas is dewatered by means of pressure swing absorption.

Claim 4 (original): The furnace carbon black producing process in accordance with claim 1 wherein the off-gas is subjected to plasma heating subsequent to removal of carbon black therefrom and prior to being fed to the burner.

Claim 5 (original): The furnace carbon black producing process in accordance with claim 1 wherein an oxidant gas feed stream to the burner is subjected to plasma heating prior to being fed to the burner.

U.S. Patent Application No. 09/857,490  
Amendment After Final dated June 2, 2004  
Reply to Office Action dated March 2, 2004

Claim 6 (original): The furnace carbon black producing process in claim 1 wherein hydrocarbon feedstock is subjected to plasma heating prior to being fed to the furnace.

Claim 7 (original): The furnace carbon black producing process of claim 1 wherein combustion gases produced in the burner by combustion of the heated, dewatered, off-gas with an oxidant gas feed stream are subjected to plasma heating prior to contacting make hydrocarbon feedstock in the reactor of the carbon black furnace.

Claim 8 (original): The furnace carbon black producing process of claim 1 wherein the oxidant gas feed stream to the burner comprises air plus oxygen enhancement, wherein the oxygen enhancement is produced by a pressure swing adsorption process.

Claim 9 (withdrawn): A furnace carbon black producing process wherein plasma heating is used.

Claim 10 (withdrawn): The furnace carbon black producing process in accordance with claim 9 wherein off-gas is subjected to plasma heating subsequent to removal of carbon black therefrom and prior to being fed to a burner portion of the same or a different carbon black furnace.

Claim 11 (withdrawn): The furnace carbon black producing process in accordance with claim 9 wherein an oxidant gas feed stream to a burner portion of the same or a different carbon black furnace is subjected to plasma heating prior to being fed to the burner.

Claim 12 (withdrawn): The furnace carbon black producing process in claim 9 wherein hydrocarbon feedstock is subjected to plasma heating prior to being fed to the furnace.

Claim 13 (withdrawn): The furnace carbon black producing process of claim 9 wherein combustion gases produced in a burner portion of the same or a different carbon black furnace

U.S. Patent Application No. 09/857,490  
Amendment After Final dated June 2, 2004  
Reply to Office Action dated March 2, 2004

are subjected to plasma heating prior to contacting make hydrocarbon feedstock in the reactor of the carbon black furnace.

Claim 14 (withdrawn): The furnace carbon black producing process of claim 9 wherein the oxidant gas feed stream to the burner comprises air plus oxygen enhancement, wherein the oxygen enhancement is produced by a pressure swing adsorption process.